Vulnerable Populations Strategic Initiative (VPSI) - Mid-Levy Report (2018)

Hendrika Meischke

Michele Plorde

Contributors to the report:

Outreach and Education

Alan Abe (EMS)
Carol Fahrenbruch (EMS)
Jamie Emert (EMS)
Bill Mace, (Seattle FD)
Mei-Po Yip (CISC)
Mohamed Ali (SHB)
Matt Aufflick (OEM)
Tey Thach (OEM)
Laura Miccile (EMS)

Fire-based Pilot Projects

Lori Jarrett
Zachary Williams
Inderpal Virk
Ari Bell-Brown
Bridget Albright
Barry Morrison
Marlee Fisher

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Executive Summary

The Emergency Medical Services (EMS) Vulnerable Populations Strategic Initiative (VPSI) is a collaboration between the EMS Division, Public Health – Seattle & King County, fire departments, community-based organizations, and the University of Washington. The goal of VPSI is to *conduct programmatic, scientific and case-based evaluations to ensure that the interface between EMS and vulnerable populations is of the highest quality.*

In response to a 2014 King County-wide needs assessment with 698 EMS providers, VPSI activities have centered around 1) conducting education and outreach activities on 9-1-1 and emergency response in vulnerable communities (limited English proficiency [LEP] and seniors) 2) conducting pilot studies on alternative EMS care delivery to vulnerable populations (elderly; LEP; mental health and intoxicated patients) and 3) conducting a county-wide wellness needs assessment among 9-1-1 personnel.

I. Outreach and Education on 9-1-1 and CPR to vulnerable communities: In partnership with the Chinese Information Service Center, the Somali Health Board, Seattle Office of Emergency Management, Tukwila school district, EMS division and the undergraduate capstone program at the University of Washington the following activities happened over the past 3 ½ years.

- Over 12,000 LEP community residents were reached through our VPSI education and outreach program through one-on-one education; health fairs or workshops.
- UW undergraduate students knocked on 2,066 doors of seniors and other residents in King County and educated 267 people on 9-1-1, bystander CPR, and stroke.
- UW undergraduate students and EMS personnel conducted 28 workshops at senior centers and reached 488 number of seniors with 9-1-1/CPR education and training.
- Survey results show that the education was effective in increasing knowledge and awareness of when and how to call 9-1-1 and bystander CPR.

II. Fire-based Pilot Studies: In partnership with Seattle FD, Kent, Renton and, Shoreline FDs and numerous community-based service agencies, 3 pilot studies were developed, implemented and evaluated with assistance from Master's in Public Health Students at the University of Washington. These included: 1) **Vulnerable Adult Pilot Project**: a program targeted at improving the identification and reporting of vulnerable adult and neglect, 2) **Patients with Mental Health Illness and/or Chemical Dependency Disorders**, a program implemented by the Shoreline Fire Department to test a method of connecting 9-1-1 callers who have mental illness or substance use disorder to health care resources, 3) **Implementation and evaluation of the city of Renton Sobering Center project**: a program to provide an alternative destination for acutely intoxicated individuals in the Cities of Kent and Renton who did not require further medical care in the Emergency Department (ED).

In partnership with the University of Washington School of Public Health, VPSI has received a great deal of assistance in program development, program evaluation and community outreach related to VPSI activities.

- Over the past four years **121 undergraduate public health students** have contributed a total of **6,050** service-learning hours to the VPSI outreach and education program as of March 2018, as part of their undergraduate public health capstone class. In addition, a total of **14** undergraduate students contributed an estimated **2,000** volunteer hours during the 2015 and 2016 10-week VPSI summer internships. Activities conducted by undergraduate students include: conducting needs assessments; materials development and pre-testing; outreach and education.

- In addition, **8 graduate students have provided over 2,000 hours** in free service to develop and evaluate the many fire-based VPSI projects.

[data from Carlson Center 2015-2018 for undergraduate service-learning hours]

Community-based partner	**2015**		**2016**		**2017**		**2018**		**totals**
	Cohort 1	Cohort 2	Cohort 1	Cohort 2	Cohort 1	Cohort 2	Cohort 1	Cohort 2	
VPSI (general)*	4 4								**8**
CISC		5	5	5	5	2	3	3	**28**
SHB		5	5	5	-	-	-	-	**15**
Seniors/EMS		5	5	15	6	6	7	8	**52**
OEM			4	5	-	-	-	-	**9**
Ethnomed			3	3	3	-	-	-	**9**
Total	**8**	**15**	**22**	**33**	**14**	**11**	**10**	**11**	**121**

*We started with a mix of student volunteering across different agencies (CISC; SHB etc.) in 2014/2015.

Cohort 2 2018 will be done in June 2018

III. County-wide Wellness Needs Assessment (N=984): Summary

- Although most respondents report to be in good or excellent health, (work) stress is a significant issue and sleep deprivation, and the effects of sleep on work and health, is an even greater issue.

- In general, awareness of symptoms of stress and PTSD is pretty high although health conditions that are associated with stress are less well known. About half of respondents know the number of a crisis line.

- Although certain resources/programs are very accessible, few people report having used these programs. In addition, engaging with service providers who are not well-trained in

Public Safety lowers the enthusiasm for participation in such programs. On the other hand, there seems to be a great interest in stress management programs of all kinds, including mindfulness, awareness training and counseling programs.

- Exercise and fitness programs are perceived as important programs for mental wellness but it appears that there is no dedicated time in the day to actually engage in fitness. Respondents feel overscheduled and have limited time to exercise, decompress or reflect.

Consistent with other surveys, mental wellness culture in the fire service is not conducive to communication about mental wellness concerns. Although the majority of respondents feel mental wellness is seen as important by their agency, most are not truly comfortable talking about mental wellness concerns out of fear for retaliation or punitive action.

Vulnerable Populations Strategic Initiative – Overview

The Emergency Medical Services (EMS) Vulnerable Populations Strategic Initiative (VPSI) is a collaboration between the EMS Division, Public Health – Seattle & King County, fire departments, community-based organizations, and the University of Washington. The goal of VPSI is to *conduct programmatic, scientific and case-based evaluations to ensure that the interface between EMS and vulnerable populations is of the highest quality.*

VPSI activities are focused on ensuring:

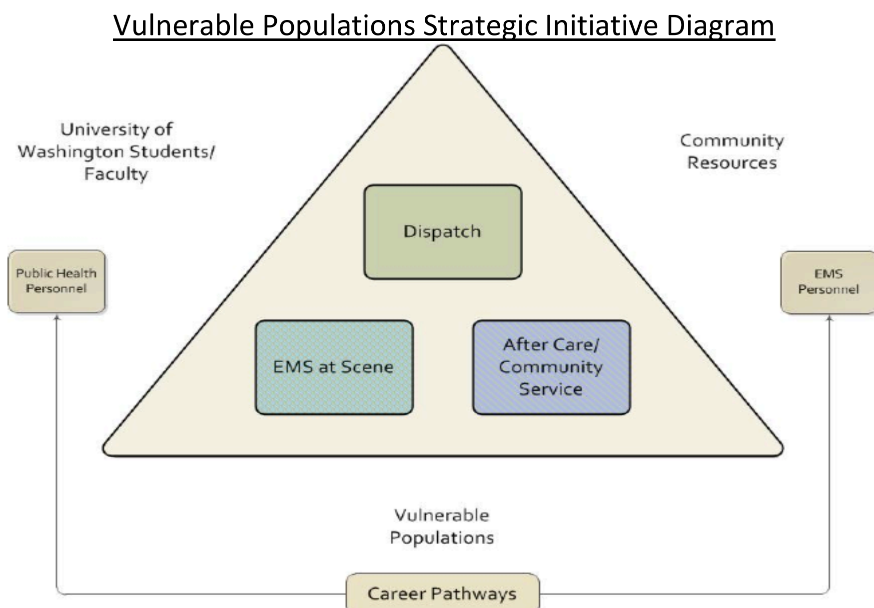
1. successful communication between vulnerable populations and **9-1-1 dispatch**
2. best practices for **at scene care** of vulnerable populations
3. **follow-up care and community services** for vulnerable populations

A **cross-cutting theme** of this initiative related to increasing EMS workforce diversity and cultural competency.

Objectives of VPSI are to:

1. Develop strong collaborative relationships between VPSI activities and the **University of Washington** by connecting students to the practice community via capstone, thesis and practicum opportunities related to VPSI.
2. Identify needs and **develop strategies for system-wide changes** that will improve EMS care for vulnerable populations.
3. Build a sustained approach to **career paths** in EMS for under-served, vulnerable populations.
4. **Cultivate ongoing partnerships** with existing agencies, networks and programs that are serving vulnerable populations in King County, Washington.

Vulnerable Populations Strategic Initiative Diagram



Improving Successful Communication Between Vulnerable Populations and EMS

A needs assessment conducted with King County EMS providers at the beginning of the 2014-2020 levy period suggested that patients with limited English proficiency pose challenges in service delivery due to the language and cultural differences between the EMS system and LEP communities. For full report see www.kingcounty.gov/vpsi/needs-assessment

Summary of Results (N=698 EMS providers): The patient groups that pose the greatest challenges for effective service delivery are 1) patients under the influence of alcohol or drugs, 2) institutionalized patients (i.e., nursing home, adult family home), and 3) patients who speak limited English (LEP). Two of these groups (LEP and patients under the influence) are also the groups where communication is rated as most challenging between the providers and the patients.

EMS providers reported the greatest 9-1-1 education needs for patient groups from culturally diverse communities, care givers of institutionalized patients, and patients with limited English proficiency. Greatest perceived training needs for firefighter/EMTS are for trainings on how to effectively interface with LEP patients and patients with mental health conditions. Survey respondents were particularly interested in tools/technologies to assist them in communication with LEP patients and in referral of patients with non-emergency needs to social services.

In addition to this needs assessment, literature on LEP communities showed that 1) lack of understanding of prehospital emergency care system, 2) fear of calling 9-1-1 and 3) lack of knowledge of emergency response (like bystander CPR), affects health outcomes and even survival.

To address these issues, we developed partnerships with community organizations that serve different cultural, language communities to help us conduct outreach and education on how the EMS system works and how to perform life-saving actions such as CPR. We developed a King County community-based outreach program to reach LEP communities as well as other vulnerable populations, such as seniors, who are at higher risk of life-threatening emergencies due to their age. This report includes our activities to date.

VPSI Outreach and Education on 9-1-1 and Medical Emergency Response: Limited English Proficient Communities

Limited English proficient citizens are a vulnerable group when it comes to effective medical emergency response. Challenges with understanding the EMS system in their host country, communication barriers and lack of knowledge about how to interface with the system and how to perform bystander pre-arrival instructions negatively affect patient care in the prehospital setting.

VPSI outreach and education activities have included a variety of different approaches to reaching LEP communities with education on when to call 9-1-1, how to communicate with the dispatcher and how to perform bystander CPR as well as how to recognize and respond to symptoms of stroke.

All the education and outreach activities have been conducted in partnership with the University of Washington undergraduate public health capstone class, which is a service-learning class for seniors in the undergraduate public health major, as well as with community partners such as Chinese Information Service Center (CISC) Somali Health Board (SHB); Office of Emergency Management (OEM); Tukwila School District and Seattle FD Community Fire Safety Ambassadors (CFSA) program. Culturally relevant and linguistically congruent materials were developed during the first year of the levy period. All these materials can be found on our VPSI website: www.kingcounty.gov/vpsi

Home » Public Health — Seattle & King County » Emergency Medical Services (EMS) » Vulnerable Populations Strategic Initiative

Vulnerable Populations Strategic Initiative

There are significant disparities in health status and access to health care in King County, Washington. Poverty, discrimination, and limited English proficiency (LEP) affect access to health care and insurance coverage. Uninsured individuals disproportionately turn to emergency medical services (EMS) for health care services and as such, EMS providers are at the front lines in providing care to those most in need.

In 2014, 21.2% of King County's residents were foreign-born and of these individuals, 26.4% of King County residents ages 5 and older spoke a language other than English at home.

Research shows that LEP communities in King County experience unique challenges in accessing 9-1-1 related to communication barriers and cultural differences.

About VPSI

The Vulnerable Population Strategic Initiative (VPSI) is a team of highly dedicated staff that works in partnership with the University of Washington School of Public Health, emergency response organizations and community leaders.

Their goal is to conduct programmatic, scientific and case-based evaluations to assure that EMS provides the best possible care to all King County residents regardless of race, ethnicity, age, socio-economic status, culture, gender or language spoken.

Link/share our site at www.kingcounty.gov/vpsi

Resources

Below are resources for CPR, heart attacks, and 9-1-1 organized by language:

- English +
- Chinese / 繁體中文 +
- Khmer / ភាសាខ្មែរ +
- Oromo / Afaan Oromoo +
- Romanian / Limba română +
- Russian / Русский +
- Somali / af Soomaali +
- Spanish / Español +
- Thai / ภาษาไทย +
- Vietnamese / Tiếng Việt +

Examples of Materials:

在緊急情況下
一個你必須謹記的電話號碼：
911

- 是一個"統一"緊急求助號碼，可同時聯絡警察，消防局或醫療救護車協助
- 全天24小時提供服務

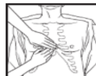
緊急情況是指任何對健康、生命、財產或環境構成即時危險的情況。

Chỉ dẫn Hô Hấp Nhân Tạo bằng sức ép

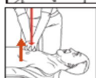
- Khoảng chừng 383,000 cuộc nhồi máu cơ tim xảy ra mỗi năm trên nước Mỹ
- 75% xảy ra ở nhà
- Cơ hội sống sót tăng 2-3 lần nếu người ngoài cuộc thực hiện hô hấp nhân tạo ngay lập tức

Nên hô hấp nhân tạo khi nào: khi một người nào đó không phản hồi, không thở bình thường

- Gọi **9-1-1**



- Đặt tay vào giữa ngực
- Đặt một tay trên tay kia.



- Khóa khuỷu tay và đẩy xuống mạnh và nhanh

Đăng ký để tìm hiểu thêm về hô hấp nhân tạo bằng sức ép với Red Cross hoặc American Heart Association.

Biết thêm chi tiết:

King County Emergency Medical Services:
401 5th Avenue, Suite 1200
Seattle, WA 98104
http://www.kingcounty.gov/healthservices/

Chinese Information & Service Center (CISC)
611 S Lane St
Seattle, WA 98104
http://www.cisc-seattle.org

Số Không Khẩn Cấp

5-1-1

- Cho thông tin giao thông

2-1-1

- Cho các dịch vụ xã hội
- Cho tất cả những câu hỏi khác/thông tin cần thiết

Số không khẩn cấp của cảnh sát

- Cho những tội phạm mà đã xảy ra
  - Seattle: (206) 625-5011
  - Kent, Renton, Auburn, Federal Way: (253) 852-2121
  - Sea-Tac: (206)296– 3311

Tài Liệu: American Heart Associations.

Thiết kế và Phát triển bởi: Jennifer Liu & Megan Swanson, School of Public Health - University of Washington 2015.

Những điều cần biết về 9-1-1 và Hô Hấp Nhân Tạo

CISC
BRIDGING CULTURES

CPR flyer in multiple languages

Download the flyers using the following links (files in pdf format):

- Chinese (Simplified) 中文
- Chinese (Traditional) 中文
- English
- Korean 한국어
- Oromo
- Romanian
- Russian русский
- Somali
- Spanish
- Thai ไทย
- Vietnamese Tiếng Việt

EMS
CPR SEATTLE

Hands-Only CPR

If you see someone collapse, make sure the area is safe for you to enter and do the following...

1. Tap the person on the shoulders and shout "Are you okay?"
2. If the person does not respond, call 911 immediately.
3. The 911 dispatcher will ask you for your address and send help right away.
   *If you cannot understand the dispatcher, ask for an interpreter who speaks your language.
4. Put the person on their back on a firm, flat surface.
5. Kneel by their side.
6. Put one hand in the middle of the chest, right between the nipples, and put the other hand on top of that.
7. With arms locked, push down hard and fast (100-120 beats per minute).
8. Don't hang up the phone; keep pushing until help arrives.

I. Chinese Information Service Center (CISC): VPSI developed a partnership with the Chinese Information Service Center (CISC) to reach LEP Chinese and other Asian LEP communities with education on when and how to call 9-1-1 and how to perform bystander CPR. CISC helps immigrants throughout King County to achieve success in their community by providing information, referral, advocacy, social, and support services. A needs assessment was conducted on 9-1-1 and CPR. Over 50 health fair or workshop participants were interviewed. Results showed that:

- About 40% (n=18) respondents know there are interpreter services are available when calling 911.
- For those speaks English very well/well (n=25), 16 (64%) can describe what they need to tell to the call taker such as the purpose of the call, call back number, nature of the emergency, address or location, and damage. However, 80% (n=17) of the LEP did not provide answer to the question “what are the most important things to tell 911 call taker when you call 911?” (that means the answer is left blank, not filled. Questions are in their language)
- Out of 21 who self-identified do not speak English/ not well, five (24%) had experience of calling 911 and the most common reason for calling is ask for medical help.
- The percentage of **NOT** knowing there is interpreter service is higher in LEP respondents (61%) than those non-LEP (56%).
- The percentage of those who had received CPR education (Not CPR certification) is much lower in LEP (29%) than non-LEP (76%).

In partnership with the UW undergraduate capstone program, many materials were developed for the Asian community including two videos, 1 poster, 2 brochures, several power point presentations and workshop curricula. These materials were developed in different languages including Chinese, Vietnamese, Korean, Khmer, and Hindu. Many outreach and education activities were organized to reach LEP communities with information on the 9-1-1 system.

Table 1 shows the results of the workshops; health fairs; table events and other activities for CISC

Academic Year	2015-2016	2016-2017	2017-	Total through 2017
Number of quarters	4	4	1	9
Number of students	14	11	3	28
Target audience	1. Chinese 2.Vietnamese	Chinese Vietnamese Cambodian Korean	Chinese Vietnamese Korean Asian Indian	

Message focus	9-1-1 CPR	9-1-1 CPR	9-1-1 CPR Stroke	
Number of workshops Number if of health fair table event	7 7	13 4	5 13	25 24
Number of people reached	1,476	2,154	3,385	**7,015**

Photos of Different Education and Outreach Activities on 9-1-1 and CPR for Chinese; Vietnamese, and other LEP community residents (CISC community partner)

II. Somali Health Board: VPSI partnered with the Somali Health Board (SHB) to reach LEP Somali communities with education on 9-1-1 and CPR. The SHB is a public, non-profit grassroots organization, formed in 2012 by Somali health professionals and volunteers concerned about the health disparities that disproportionately affect new immigrants and refugees within King County.

The Somali community in King County Washington is estimated at roughly 30,000 people. However, the source of these numbers, immigration statistics, only traces those who have settled in Washington State from a foreign country. It does not take into account Somali families that have resettled from other states (secondary migration).

The Somali population in King County is one of King County's newest and, yet, fastest growing ethnic communities. Due to the nature of this community's arrival as a large influx of refugee immigrants, much of the Somali community is part of King County Limited English Proficiency (LEP) population. Many Somali refugees come from rural areas with poor health systems, where EMS systems, disease control and surveillance, diagnosis, and treatment are either non-existent or not adequately met. Ramifications of this prior experience are vastly different health care beliefs and cultural and linguistic barriers, which impede access to information and health services. Yet, there is limited data available specific to the growing Somali population challenges to EMS access , including the known significant barriers to accessing health care resources: lack of health care coverage, unfamiliarity of the US healthcare system, language and cultural barriers, and challenges meeting basic, life sustaining needs on a daily basis.

Project Accomplishments 2014 -2017

Part I: Approximately 500 adults were educated about 9-1-1 and the EMS system in Somali communities in partnership with VPSI, the Vulnerable Population Action Team (VPAT) and the University of Washington, School of Public Health, Undergraduate Program.

- Developed viable partnership with VPAT, EMS, and organizations serving the Somali community.
- Developed education and outreach resources (one-on-one in person education, simulations, PowerPoint, videos, emergency cards banners & flyers).
- Coordinated approximately 1,000 service hours provided by UW Public Health Undergraduate students during 2014 – 2015.

Fall 2014-Spring 2015: Five students developed 9-1-1 education materials and conducted a needs assessment (community cafe) to identify challenges associated with EMS service delivery to the Somali community at the scene. These community cafe conversations identified barriers and challenges in utilizing the 9-1-1 system that were specific to the Somali speaking community and EMTs experience with Somali callers. In 2015, activities focused on addressing these challenges.

Table 2. Education and Outreach activities with SHB

Number of Somali LEP residents attending training/workshops			
Activity	2014	2015	2016
Students	4	10	5
Message focus	9-1-1	9-1-1/CPR	9-1-1/CPR
Health Fair	55 participants at Abubakar Islamic Center	80 participants at New Holly Hall	180 adults New Holly Hall
Small groups trainings/ Workshops	120 adults	160 adults	240 adults
Trainings provided at New Holly Library, English as a Second Language, East African Community Services, Hope Academy, Skyway Somali community, Somali Health Board and University of Washington Campus.			
Social media outreach/educatio n	YouTube/Facebook	YouTube/Facebook	Workshops
Total	**175 adults**	**240 adults**	**440 adults**

Part II: To improve communications between Somalis, 9-1-1 dispatchers and Emergency Medical Technicians (EMTs).

- Developed a partnership with King County Fire District 20 (KCFD#20) EMTs and Skyway Somali community.
- Conducted a needs assessment (Community Café) with community members in November 2014.
- Conducted a needs assessment with KCFD#20 EMTs through conversations during December 2014 - March 2015).
- Provided UW students first-hand experience to job shadow firefighter/EMTs responding to Somali callers.
- Assisted UW public health undergraduate students to carry out field work for practicum opportunities (2014-2015).

Part III: Graduate student conducted key informant interviews with Somali Health Professionals and engaged conversations with a dozen KCFD#20 EMTs.

- Care at the scene plays an important role in patient care and survival. This needs assessment identified the knowledge gaps, attitudes, and practice of care provision at the

scene with English speaking key informants/leaders/educated Somali health professionals and the need of CPR trainings with community members.

- Conducted focus group discussions regarding cardiac arrest response to Somalis with KCFD#20 EMS responders in Skyway.
- Ride Along: UW undergraduate students were given an opportunity to job shadow KCFD#20 EMTs and identify potential barriers for future interventions.

9-1-1/CPR workshop: Somali Community Education

Table event at Somali Health Fair: UW students and Mohamed Ali (2014-2015)

9-1-1 Call Simulation: Somali Community Education (Mohamed Ali)

During 2017 the SHB developed several videos featuring Somali actors and in the Somali language on how to call 9-1-1 and how to perform bystander CPR. These videos can be found on the VPSI website. They have been disseminated via ethnic media in King County.

III. Office of Emergency Management – Community Safety Ambassador program

VPSI partners with the Seattle Office of Emergency Management to reach LEP community residents with 9-1-1/CPR education through its Community Safety Ambassador (CSA) program. The CSA program is designed to provide basic emergency preparedness education and skills to Seattle communities that could be disproportionately impacted by a major disaster. This program accomplishes this by enlisting community members from vulnerable populations to provide outreach and training. The CSA program targets audiences with limited English proficiency or non-English speaking residents, immigrant and refugee communities, and people with access and functional needs.

The CSA program utilizes community partnerships to train multi-lingual Seattle residents to conduct disaster preparedness and life safety (CPR, 911, First Aid) training in Seattle's top languages. Through the CSA program, the Office of Emergency Management can provide training to community members in the following languages: Arabic, Amharic, Cambodian-Khmer, Chinese, English, Kiswahili, Laotian, Moldavian, Oromo, Romanian, Spanish, Somali, Tigrinya, Thai, and Vietnamese. The CSA program began in April 2015 and is funded by the Seattle Urban Area Security Initiative Grant and King County Emergency Medical Services Grant.

VPSI provides standardized trainings (and training materials) on when and how to call 911 and how to perform CPR for use by CSAs during their outreach/education events. These events include a presence as community events such as the annual "Big Day of Play" event as well as small workshops or tabling events.

Table 3. Education and Outreach activities conducted by OEMs Community Safety Ambassadors

Academic Year	2015-2016	2016-2017	2017-2018	Total through 2017
Number of quarters	3	4	4	11
Number of UW students	9 UW students	0	0	9
Target audience	LEP communities	LEP communities	LEP communities	LEP communities
Message focus	911/CPR	911/CPR	911/CPR	911/CPR
Number of workshops/training	Not available	19	4	23
# of attendees at workshops	Not available	807	92	899

Number of community events	Not available	12	7	19
# of attendees at community events	Not available	2,100	1,040	3,140
# of people reached	Not available	2,907	1,132	4,039

UW undergraduate public health students at Big Day of Play (2015)

Workshop conducted by CSAs

IV. Tukwila School district: VPSI has partnered with the Tukwila school district to train bi-lingual instructors in CPR. In turn these bi-lingual instructors provide community CPR education in their respective language communities.

Table 4 describes the educational activities	TYPE OF OUTREACH	NUMBER OF PEOPLE REACHED
Workshops	2015- Trained and issued CPR Instructor cards to 3 Tukwila School District employees to start VPSI CPR in Tukwila School District 2016-Tukwila School District VPSI CPR Classes- 4 classes, ,47 participants (2 classes in Burmese, 1 in Spanish, 1 in Nepali) 2017- Tukwila School District VPSA CPR Classes: YTD- 3 classes (1 Burmese, 1 Nepali, 1 Spanish) participants= 35	3 47 33
Materials/Curriculum	Translated American Heart Association PowerPoint materials into Burmese and Nepali for use in Tukwila School District CPR classes.	

Summary: Over the past 3 years nearly 12,000 LEP community residents were reached through our VPSI education and outreach program.

In the fall of 2017 academic year, graduate students in a health program planning class evaluated the VPSI outreach and education program by interviewing key stakeholders, and evaluating data of activities that were done to date. Recommendations for improving the program are:

1. Connect the different outreach/education programs to increase support, collaboration and sharing of resources among the different agencies/groups who are working on LEP outreach/education
2. Provide standardized curricula and regular trainings to volunteer students and CSAs
3. Reimburse CSAs and other paid volunteers for prep and clean up time, not just teaching time
4. Provide assistance in community engagement (marketing of workshops and events)
5. Provide clarity on the different educational activities related to bystander CPR (from education to training to instructor certification)
6. Expand the education to include other emergency response behaviors (stop bleeds; pediatric CPR) and recognition of life-threatening emergencies, such as stroke and acute myocardial infarction (AMI).

7. Expand the program by recruiting and training more bi-lingual instructors to increase the reach of the program into all of King County and to additional language communities.

V. VPSI Outreach and Education on 9-1-1 and Medical Emergency Response: SENIORS

Senior citizens are a vulnerable group when considering effective medical emergency response. Incidence of life-threatening illness such as heart attack, cardiac arrest and stroke increases with age, and quick activation of 9-1-1, effective communication with dispatch and providers, and prompt performance of bystander CPR can make the difference between life and death.

VPSI outreach and education activities have included a variety of different approaches to reaching older adults with education on when to call 9-1-1, how to communicate with the dispatcher, and how to perform bystander CPR, as well as how to recognize and respond to symptoms of stroke.

All the outreach activities have been conducted in partnership with the University of Washington, undergraduate public health capstone class, which is a service-learning class for seniors in the undergraduate public health major. Students have participated in the development and production of educational materials and curricula for use in the outreach program as well as direct one-on-one health education. For some of the outreach events students were accompanied by Seattle Fire Department (SFD) firefighters (as part of their smoke alarm public education activities), and later SFD cadets. The two educational strategies are used to reach older adults in King County with the information: 1) workshops at senior centers and 2) door-to-door canvassing.

Table 1 shows the results of the workshops

Academic Year	2014-2015	2015-2016	2016-2017	2017-March 2018	Total through 3/15/18
Number of students/cadets/other	5	20 + 5 SFD cadets	12	15	52
Age ranges of seniors	65+	65+		37-80	
Message focus	9-1-1	9-1-1/CPR		9-1-1/CPR Stroke	
# of workshops	Material development	9	No workshops Conducted	28	38
# of attendees		116		372	488
# of survey respondents				83	83

Whenever possible seniors filled out a survey pre-post or just post training to evaluate the success of the workshops.

Fall quarter 2017, 103 older folks attended seven CPR/Stroke community workshops. Out of the 103 attendees, 83 (80%)completed the survey. Plastic bags with Stroke Awareness and CPR magnets and File of Life, a convenient medical record form to complete and post on the refrigerator, were handed out to each attendee. Attendee ages ranged from 37 to 80.

Below are the results of the survey taken at the end of the work shop.

1. Before attending this workshop did you know how to perform hands-only CPR?
   Yes 16 (19%)
   No 37 (45%)
   Sort of 30 (36%)
2. After attending this workshop, are you more familiar to perform hands-only CPR?
   Yes 83 (100%)
   No
3. How confident are you that you could perform hands-only CPR on a cardiac arrest victim?
   Very confident 36 (43%)
   Somewhat confident 46 (55%)
   Not very confident 1 (2%)
   Not at all confident 0
4. Would you be more willing to perform hands-only CPR on a loved one?
   Yes 78 (94%)
   No 5 (6%)
5. Before attending this workshop did you know about the signs and symptoms of stroke?
   Yes 35 (42%)
   No 4 (5%)
   Sort of 44 (53%)
6. After attending this workshop, do you know the signs and symptoms of stroke?
   Yes 81 (98%)
   No 2 (2%)
7. On a scale of 1 to 10, where “1” means “not at all likely and 10 means “very likely”. How likely are you to perform hands-only CPR? (57% scored a “10”)

   8. On a scale of 1 to 10, where “1” means “not at all likely and 10 means “very likely”. How likely are you to call 911 if you or your loved-ones experience signs of a stroke? (100% scored at “10”)

Workshops at senior centers 2015-2017

More intensive education

Workshops with UW students and Seattle FD cadets: Combining fire prevention with Emergency Response

Table 2 shows the results of the Door-to-Door Senior Outreach Program.

Academic Year	2014-2015	2015-2016	2016-2017	2017-2018	Total through 2017
Number of students/cadets/other	5*	20	12+ 5 cadets	7	44
Target audience	Material development only this year	>64+	90% >64+ 10% occupants of adjacent homes	All ages >17 in a neighborhood identified as having a higher prevalence of stroke	
Message focus		911/CPR with manikin	911/CPR without manikin	Stroke education	
# of households visited		849	609	717	2175
# of eligible persons at home		233 (31%)	246 (40%)	139 (19%)	618 (28%)
# of eligible persons at home who listened to the educational messages		**75 (32%)**	**99 (40%)**	**93 (67%)**	**267 (43%)**
# of eligible persons at home who accepted educational materials		**142 (61%)**	**195 (79%)**	**84 (60%)**	**421 (68%)**

A total number of N=44 UW students and 5 Seattle FD cadets participated in the door-to-door outreach campaign. Neighborhoods targeted for this campaign included: Northeast Seattle, Beacon Hill, Green Lake, Wallingford, Fremont, and, in Central Seattle, adjacent blocks of Capitol Hill, the Central District, Madrona, and Madison Valley.

In total, an estimated 267 individuals received education on when and how to call 911 and how to perform bystander CPR and many more (N=154) accepted materials to review at their leisure. The main barrier to conducting the door-to-door outreach program is the low number of individuals who are home during day-time hours (33%). In addition, the rainy weather in Seattle makes a door-to-door campaign more challenging. Scheduling student teams (teams of 2 or 3) for door-to-door campaigning also poses some challenges. On the other hand, the evaluation of the door-to-door educational experience has been very well received by the UW

students as a professional development activity. As such, the outreach program does not only benefit the community but also young public health professionals.

Evaluation: During the first year (2015-2016) households of seniors were identified using a commercial mailing list. Seniors on the mailing list were randomized to either 1) receiving a door-to-door visit or 2) not receiving a door-to-door visit. Students from Portland University called the intervention and control seniors by phone to evaluate the program. Of the 694 seniors called from the mailing list group, only 14 people were able to be reached by telephone and interviewed. Half those seniors recalled receiving the materials.

During the second year (2016-2017) seniors were identified using a commercial mailing list. Students conducted the outreach with seniors on the mailing list as well as persons living in adjacent homes. No formal evaluation (other than tracking visits- see table 1) was performed.

During the third year (2017-2018) students visited geo-coded areas in neighborhoods identified as having a relatively high prevalence of stroke. This diverse area included both lower and higher SES households. Evaluation happened by asking participants to answer a couple of questions right after the one-on-one education. Of the N=42 people who were educated at the door during the last quarter of 2017 calendar year, 64% responded they had "learned something new", almost 100% responded they would call 9-1-1 for symptoms of stroke. Median age was 40 years among the 34 persons who provided their age.

Door-to-door 9-1-1/CPR education, UW students in partnership with Seattle FD -2015-2016

UW students educate seniors on CPR while Seattle Firefighters are checking smoke alarms during the 2015-2016 door-to-door campaign.

UW students going door-to-door with Stroke Education (fall 2017)

PLANS FOR 2018-20120

In the fall of 2017 academic year, graduate students in a health program planning class evaluated the VPSI senior outreach and education program by interviewing key stakeholders, evaluating data of activities that have been done to date and the academic and gray literature. Recommendations for improving the program are:

- Continue both programs (door-to-door and workshops) but try to find locations (farmers markets, libraries, churches, senior centers) where workshops or table events can be conducted during more regular days/hours. This will facilitate scheduling of student educators
- Evaluate the impact on seniors more systematically by pre-post surveys and evaluate the impact on the UW undergraduates more systematically by post-VPSI service-learning survey

VPSI SUMMER INTERNSHIP PROGRAM

In the summers of 2015 and 2016 a total of **14 undergraduate public health students** (8 in 2015 and 6 in 2016) joined either the 5 week or 10-week internship program. The internship program consisted of a week-long orientation, including a trip to the Seattle FD and dispatch center as well as training on how to develop materials, curricula and how to conduct outreach events and workshops. Each year the finale event consisted of a day long “Big Day of Play” outreach event in South Seattle. Students engaged in a variety of health fairs, in partnership with CISC, SHB and OEM. Some pictures below. We estimate these students volunteered about **2,000** hours of their time to VPSI activities. Each student received a letter of reference with the assurance that the academic partner (Dr. Meischke) would tailor the letter to job/advanced degree programs requests.

Visiting Seattle FD Station #2 during orientation

Big Day of Play event 2016

Sumaya and Melissa carry “Andy” back to the car.

Cleaning up!

Taking “Andy” home

VPSI OUTREACH AND EDUCATION PROGRAM SUMMARY
The VPSI outreach and education program reached many vulnerable individuals living in our county with education on when and how to call 9-1-1 and how to perform bystander CPR. Table 5 reflects the total number of individuals reached by our activities.

Table 5 Summary of VPSI Outreach and Education

Community Partner	# of people reached with education on 911/CPR	Target audience
Chinese Information Service Center	7,015	Chinese, Vietnamese, Korean, Cambodian, Asian Indian
Somali Health Board	440	Somali
Office of Emergency Management	4,039	Many different language communities
Tukwila School district	83	
Seattle FD/UW undergrad	267 (door to door education + an additional 154 who accepted materials) 488 (workshops)	Seniors 64+, adjacent households, all age > 17 Seniors 64+

University of Washington Undergraduate Public Health Capstone Program
VPSI partners with the UW undergraduate service-learning program to assist in outreach and education programs. Over the past three years **121 undergraduate students** have contributed a total of **6,050** service-learning hours to the VPSI outreach and education program as part of their capstone class and and 14 students contributed an estimated 2,000 volunteer hours as

part of the VPSI summer internship. Activities included: needs assessments; materials development and pre-testing; outreach and education.

In sum, VPSI partners reached almost **12,000** LEP community residents (many of whom are seniors) and close to a 1,000 (English speaking) seniors with educational messages on when and how to call 9-1-1 and how to perform bystander CPR during a cardiac arrest. In part, this was made possible by the service-learning hours UW undergraduate seniors dedicated to this effort. As budding health professionals the VPSI experience hopefully instills a passion for serving underserved communities. As the undergraduate public health program is quite diverse in its racial/ethnic make-up, several of the undergraduate students have applied to the STAR program. In addition, we plan to continue to hone our tracking systems allowing for more accurate evaluation of the program's impact, on community readiness for interfacing with 9-1-1 and professional development of volunteers.

A more systematic evaluation of the UW student experience will begin Spring 2018. Anecdotally, the VPSI program has been received very positively by students. Below is a quote from one of the students who participated in the VPSI summer internship program several years ago.

Hendrika,

"I just wanted to update you and let you know that I have gotten into UW, Boston U, and OHSU-PSU so far for their MPH in Epi program (still waiting to hear back from Arizona).
None of these acceptances could have ever happened without your letter of recommendation and the VPSI summer internship, so thank you so so much!!" (Jennifer Liu, VPSI intern summer 2015).

FIRE DEPARTMENT-BASED CARE DELIVERY PILOTS
Over the past 4 years, VPSI has partnered with several FDs and community practice partners to evaluate different ways to deliver EMS services to vulnerable populations. These pilot studies were planned and evaluated with the assistance of Master's in Public Health Students. All reports are available on the King County, EMS VPSI website.

III. Fire-based Pilot Studies: In partnership with Seattle FD, Kent, Renton and, Shoreline FDs and numerous community-based service agencies, several pilot studies were developed, implemented and evaluation with assistance from Master's in Public Health Students at the University of Washington. These included:

1. The Sobering Center Pilot. This paper provides the rationale and background for the collaborative effort of a multitude of community organizations that have come together to try and address acute intoxication in the Cities of Renton and Kent. (Barry Morrison MPH)

2. Evaluation of the city of Renton Sobering Center project: The City of Renton Sobering Center Pilot was implemented over nine months, from January – September 2017, to provide an alternative destination for acutely intoxicated individuals in the Cities of Kent and Renton who did not require further medical care in the Emergency Department (ED). (Marlee Fisher MPH)

3. Evaluation of a Vulnerable Population Strategic Initiative: Patients with Mental Health Illness and/or Chemical Dependency Disorders. This pilot was implemented by the Shoreline Fire Department to test a method of connecting 9-1-1 callers who have mental illness or substance use disorder to health care resources (Lori Jarrett, MPH)

4. Vulnerable Adult Pilot Project: This paper provides the rationale and background for a program targeted at improving the identification and reporting of vulnerable adult and neglect. (Inderpal Virk, MPH)

5. Vulnerable Adult Pilot Project: Evaluation of a coordinated effort to improve the identification and reporting of vulnerable adult and neglect, to increase care coordination and communication among involved agencies, and to improve health outcomes of vulnerable adults in Seatle, King County. (Ari-Bell Brown MPH)

6. High Utilizing individuals of Emergency Medical Services Project. This paper provides the rationale and background for a program targeted at reducing the number of high utilizing individuals of EMS by implementing a coordinated effort between the Seattle Fire Department, Aging and Disability Services (ADS) and the many varied social services in the Seattle area to reduce the HUI's dependence on 9-1-1 for low acuity needs. (Bridget Albright MPH

7. Program Evaluation: EMT Scholarship program, King County EMS. This paper evaluates how the program is meeting its objective to remove barriers that could dissuade someone from pursuing enrollment in the EMT training program and a career in EMS (Zachary Williams, MPH)

City of Renton Sobering Center Pilot: Program Evaluation (by Marlee Fisher, MPHc)

EXECUTIVE SUMMARY The City of Renton Sobering Center Pilot was implemented over nine months, from January – September 2017, to provide an alternative destination for acutely intoxicated individuals in the Cities of Kent and Renton who did not require further medical care in the Emergency Department (ED). The project was a collaboration between Kent and Renton Police Departments, Puget Sound Regional Fire Authority, Renton Regional Fire Authority, St. Vincent de Paul, Pioneer Human Services, Valley Medical Center, Renton Ecumenical Association of Churches (REACH), Tri-Med Ambulance, Valley Cities Behavioral Health Care (Kent and Renton), Kent Human Services, Renton Department of Community Services, Catholic Community Services, Renton Housing Authority, Public Health – Seattle & King County's Emergency Medical Services (EMS) Division, and King County's Department of Community and Human Services (DCHS).

Sobering Center client data were collected by Pioneer Human Services, who operated the facility, and were then analyzed for this evaluation. There were 87 unique Sobering Center clients who collectively visited the Sobering Center 319 times. The Sobering Center Pilot clients were primarily homeless (93%), male (86%), and many self-reported a history of criminal convictions (40%) and concurrent medical issues (33%). Additionally, 47% reported receiving mental health services in the past, indicating the prevalence of mental illness among this population, as well as some existing connections to behavioral health supports. The demographics of Sobering Center users are consistent with national trends and indicate the complex health and social needs of this population.

While First Responders and Valley Medical Center referred eligible clients to the Sobering Center, missed opportunities for Sobering Center referrals resulted in continued transport to hospitals. Most Sobering Center encounters (64%) were self-referrals or walk-ins. This reflects some of the challenges agencies faced in referring clients, including changing behaviors to utilize a harm-reduction service over the ED. The high prevalence of walk-ins also indicates clients' awareness of the Sobering Center and their desire for a secure and safe location to spend the night. The Pilot diverted up to 87 clients from the ED, including 14 "high users" (with 3+ Sobering Center visits), who tend to be the most complex and costly users of hospital and law enforcement systems. After Sobering Center discharge in the morning, clients were transported by Tri-Med Ambulance to receive off-site social services. Since 78% of discharges were self-discharges to the street, most clients likely did not encounter the outreach component of the pilot. However, 11 Sobering Center clients (13%) engaged with Valley Cities Behavioral Health Care after their Sobering Center admission, indicating that some clients were made aware of Valley Cities and were motivated to learn more. The qualitative data were collected via interviews, site visits, and surveys with 16 key partners and were analyzed for program barriers, strengths, and areas for improvement. Major barriers included challenges in communication between project partners, logistical challenges (hours of the Sobering Center, location, eligibility requirements, and timing of services), difficulties fostering culture change among providers, lack of warm hand-offs, and challenges around the outreach component after discharge. The identified strengths were the collaboration of the partners, city and county support, the monthly planning meetings, and that the pilot provided a needed service in the

region. Primary lessons learned included meeting the clients "where they are at," promoting culture change among partners, and fostering strong partner relationships.

Moving forward, the Sobering Center Pilot evaluation findings can inform how decision-makers and community-based organizations garner community support and integrate sobering services with other patient-centered, community-based, and wrap-around services to serve vulnerable populations and address the root causes of substance use, mental illness, and homelessness.

Connecting Patients with Mental Health Illnesses and/or Chemical Dependency Disorders to social services. (by Lori Jarrett MPH)

EXECUTIVE SUMMARY: A pilot project was implemented by the Shoreline Fire Department (FD) to test a method of connecting 9-1-1 callers who have mental illness or substance use disorder to health care resources. The pilot program used a social worker to engage with 9-1-1 callers who were referred by EMS providers with a primary or secondary diagnosis of mental illness and/or substance use disorder

As a result of this pilot effort, 69 patients were reached by the MSW, 17 of them agreed to receive services, and 11 patients were assessed and referred to resources for follow up. Unfortunately, it's unknown whether these patients actually flowed up for care. A breakdown of initial dispatch codes (IDCs) from dispatch and primary and secondary impressions from EMS personnel indicates that the patients did not have behavioral/psychiatric disorder or substance/drug use disorder incidents in isolation

We learned that the time and method of contact is directly related to the rate of patient participation. For one, the screening report in ESO worked well to identify the patients of interest for the pilot, as long as data were entered accurately. However, we found that the timing of the contact loop may be too long; i.e., there is a gap of at least several days between initially screening clinical impressions and referral to the MSW and another similar gap between referral to the MSW and the MSW attempting to contact the patient. Unfortunately, we did not capture the length of time it took to contact or reach the patients, so we were unable to evaluate it with data. The screening report should be run and sent to the MSW regularly (daily) to allow the MSW to follow-up with the patient sooner. If patients are reached within a short amount of time after the 9-1-1 incidents, it may improve the rate of connection to appropriate care.

Regarding the contact methods, we learned that an in-person contact method is the most efficient way to connect with patients and motivate them to enroll in services. The reasons may be two-fold: many patients don't have a reliable phone or may choose to ignore calls from an unknown number, and it is generally more difficult to disengage in person than to hang up a phone. Furthermore, we found that when Community Medical Technicians (CMTs) began to accompany the MSW to in-person patient visits, the percentage of patients reached by the MSW increased with statistical significance.

Of the patients who were reached by the MSW, only 9% agreed to receive services before the CMT accompanied the MSW. After the CMT joined the MSW, 41% of patients reached agreed to receive services. These data indicate that the CMT's involvement in the pilot had a statistically significant impact on the rates of patients agreeing to receive services.

As identified by the CMT, crews, and MSWs in their interviews, the ideal state would include 24-hour staffing to allow more "in the moment" contact rather than later. Additionally, during the pilot project, over 20% of those referred to the MSW called 9-1-1 between 11 pm and 7 am. A 24-hour staffing model would allow capture of those incidents as well. Another challenge that the pilot faced was that homelessness was an impediment for the MSW to contact or reach the patient. Homeless patients made up about 9% of all patients identified in the pilot, but only 3 of the 41 total homeless patients were reached by the MSW.

Conclusions & recommendations:

1. Patient screening by the FD and referral to the MSW should occur regularly (daily) to minimize the gap between referral and MSW follow up.
2. In-person visits are the most effective contact method. This should be done in partnership with local area service providers (MSW) in partnership with CMT.
3. Twenty-four/seven availability by MSWs will allow for more immediate contact “in the moment” could increase engagement with patients.
4. CMTs and MSWs must be able to quickly make an emotional connection with the patient. The “right” personality is a key criterion for success.
5. Real time feedback from the MSW to the crews will make the program more obvious and meaningful to the EMS personnel, than emailed updates weeks or months after the incident.

Vulnerable Adult Pilot Project: Program Evaluation (by Ari Bell-Brown MPH)

EXECUTIVE SUMMARY: The EMS Vulnerable Adult Pilot Project was implemented on September 12, 2014 and has run for nine months. The project is a coordinated effort between the Seattle Fire Department (SFD), Aging and Disability Services (ADS), Adult Protective Services (APS), Seattle Police Department (SPD), the Emergency Medical Services (EMS) Division, Seattle area hospitals, and the University of Washington (UW) to improve the identification and reporting of vulnerable adult abuse and neglect, to increase care coordination and communication among involved agencies, and to improve health outcomes of vulnerable adults in Seattle, King County.

Nine months of data was collected via a SharePoint Vulnerable Adult Reporting Form and analyzed for this evaluation. SFD reported 212 cases of vulnerable adult abuse/neglect in this time period, with 37 duplicated patients. This is an increase of approximately five reports per month compared with the nine months previous to the pilot. The most common impression for filling out the reporting form by SFD was neglect/self-neglect (77.4% of cases). Of the 171 unduplicated reports to APS, 107 (62.6%) had no social services in place at the time of reporting, demonstrating that SFD is uniquely identifying patients not already linked in with state social services. Out of the 171 unduplicated reports, 137 (80.1%) patients enrolled in some type of services through ADS. Of those 137 patients who were enrolled, 92 (67.2%) did not have social services in place at initial reporting while 45 (32.8%) received expanded services. Of the 212 reports, ADS was able to close 63 (29.7%) of the cases by the end of the nine month pilot project. Of those 63 cases, 41 (65.1%) were closed due to residential placement of the patient. Of the 161 patients initially reported by SFD as neglect/self-neglect patients, 106 (65.8%) were found by APS to have an outcome of neglect or self-neglect, validating the SFD reports of neglect/self-neglect. Of these 106 patients, 5 (4.7%) were found to be experiencing neglect by APS and the remaining 101(95.3%) were found to be experiencing self-neglect. Qualitative data was collected via interviews with major stakeholders and SFD stations for analysis of program strengths and areas for improvement.

Major strengths identified were having a dedicated case manager for patient follow up, data collection via the Vulnerable Adult Reporting Form, and communication among stakeholders. Areas identified for improvement were increased training for SFD members on identification of vulnerable adult abuse/neglect and access to reference sheets on site for SFD to reference reporting guidelines.

Based on these findings, it is recommended that this program continue in Seattle and be expanded regionally to King County. Recommendations for expansion include uniform training for regional mandated reporters, and regional adoption of a uniform reporting form. Implications for expansion include resolving how to support case management for the increased workload from the additional fire departments in King County. However, continuity of this program with the included recommendations and continuous evaluation will increase the recognition of these patients among mandatory reporters and further improve the health outcomes of vulnerable adults in the entire King County region.

Lessons learned across FB pilot projects:

	Challenges	Strengths
Sobering Center Pilot	Communication between stakeholders Difficulty in fostering FD culture change (referring to Sobering Center instead of taking to ED) Logistical (hours of operation; location; eligibility requirements; timing of services Lack of warm hand-off Challenges around outreach after discharge (walk-ins; homelessness)	Collaboration between stakeholders City and county support, Monthly planning meetings
Referral of mental health and	Limited hours of MSW Gap between referral and MSW follow-up	In-person visits are most effective patient contact method. MSW + CMT more effective than MSW alone Real-time feedback from MSW to crews makes the program more
Identification of elder neglect/abuse	Increased and ongoing training for FFs on elder neglect/abuse Access to reporting guidelines and referral sheets (on-site)	Dedicated case manager for patient follow-up Data collection via Vulnerable Adult Reporting Form Communication among stakeholders

Across these projects, we have learned that in order to change current FD referral, care delivery practices for patients in need of social services it is important to:

1. provide regular, ongoing training to FD personnel on how to identify, refer, and how to provide alternative care for vulnerable patients who are in need of social services rather than medical care
2. Make data collection; referrals by FD personnel and feedback to FD personnel easy and timely
3. Meet patients where they are at; in-person visits, preferably real-time; warm hand-off
4. Dedicated MSW/CMT/case manager
5. 24/7 access to new services
6. Regular communication with stakeholders

Plans for 2018-2019

We will continue to work with the UW MPH program to evaluate several programs over the next couple of years.

1. Evaluation of mandatory CPR training in King County Schools (follow-up): This study will assess the prevalence of CPR training in middle and high schools in King County as well as assess memory of CPR techniques and confidence in CPR performance among a sample of middle and high school students across school districts in KC.

2. Pilot program to test a partnership between two fire departments (Puget Sound Fire, Renton Fire) and REACH's street-based case management services to connect vulnerable patients who call 911 to services

TRAINING FOR 9-1-1 PERSONNEL

On-line training for 9-1-1 call takers on communication with limited English proficient callers.

Based on research that shows the immense challenges faced by LEP callers and call takers when language barriers get in the way of clear communication, an MPH student (Seth Grisham) conducted a needs assessment among 911 call center stakeholders, trainers and EMS providers on the importance of training on communication with LEP callers/pts. His work showed a need for training on this issue, which was consistent with the information from the VPSI county-wide needs assessment.

VPSI partners with the Northwest Center for Public Health Practice to develop and test an on-line training for call takers on how to most effectively communicate with LEP callers and with interpreters. Jacquelyn Hermer, a PhD student in Nursing has been instrumental in pulling together the content for the modules. The training is expected to be ready for use later in 2018.

Mental Wellness Needs Assessment

VPSI partners with leaders and stakeholders in EMS to address the growing mental wellness concerns related to occupational stress. A planning committee (chaired by Chief Heitman) was convened by Michele Plorde to assess how she, as Director of EMS division, can assist in development of a regional approach to mental wellness of 9-1-1 personnel. A wellness survey will be sent to all 9-1-1 personnel in King County January 2018 and the results will inform levy planning for this important issue.

Mental Wellness Planning Committee: Chair: Steve Heitman. Members: Michele Plorde, Maureen Pierce, Stephen Rawson, Joel Ingebritson, Aaron Tyerman, Jay Wittwer, Matt Riesenberg, Pat Ellis, Cathy Browning, Jamie Formisano, Vonnie Mayer, Hendrika Meischke.

Seattle-King County Wellness Survey: Summary of Results

Due to the recognition of issues involving mental health fatigue, stress and even suicide, the King County Fire Chiefs Association (KCFCA) Mental Wellness Subcommittee sent out a survey to assess the resources needed to improve wellness of our King County first-responders, which includes Fire and EMS personnel, 9-1-1 call receivers and dispatchers as well as administrative and support staff.

This survey launched in January 2018 and closed mid-March. Almost one-thousand individuals (N=984) responded to the survey and this report describes the opinions of the respondents. Based on a rough estimate of the county's number of 9-1-1 personnel, we estimate the survey response rate at ~20%. Almost all agencies had some representation in the survey, although response rates ranged from 0% to 51% across the agencies.

The KCFCA Subcommittee will use the results to develop a regional strategy for use by EMS agencies and dispatch centers across King County.

Respectfully,

KCFCA Mental Wellness Subcommittee

Steve Heitman (Chair)

Members: Michele Plorde, Maureen Pierce, Stephen Rawson, Joel Ingebritson, Aaron Tyerman, Jay Wittwer, Matt Riesenberg, Pat Ellis, Cathy Browning, Jamie Formisano, Vonnie Mayer, Hendrika Meischke

I. Demographic Characteristics

Table 1 shows the breakdown of survey respondents by age; years worked in fire service and role at agency. The sample is mostly male, middle-aged and white (88%) with a great deal of work experience (31% report 25+ years of experience).

Table 1. Gender, age, years worked in service and role at agency for survey respondents.

Male	85%
Age (18-29)	7%
(30-44)	34%
(45-59)	52%
(60+)	7%
Years worked in Service	
< 5 years	13%
6 and 15 years	26%
16 and 25 years	30%
More than 25 years	31%
Role at Agency	**(N=984)**
Firefighter/EMTs	49%
Officer	24%
Paramedic	8%
Administration	6%
Admin support	2%
Dispatcher	4%
Call Receiver	2%
Other:	4%

II. Access To and Use of Mental Wellness Resources

Table 2 shows that the large majority of respondents report their agency offers EAPs (97%); peer support (85%); chaplaincy programs (91%) and Critical Incident Stress Debriefings (CISD)

(86%). Fewer respondents report access to conflict resolution programs; screening brief intervention/referral; stress management training; stress first aid program or programs focused on helping co-workers who are showing signs of stress. More respondents have heard of SafeCallNow (57%) than Code4Northwest (47%).

Note: Some of the responses to the open-ended questions revealed that EAP programs are not always perceived as very useful because the programs are not specific to Public Safety and the quality of assistance is highly variable. For BOTH EAP and peer support programs, the issue of lack of perceived confidentiality is a barrier to participation. Several respondents reported they do not engage in these programs because they are not confidential.

Several respondents commented that exercise/fitness programs are important for mental health. However, even though most agencies provide access to fitness equipment there is seldom time in the day to work out in a consistent manner.

Table 2: Shows the results for the questions that access to and use of mental wellness resources.

	Does your agency offer...?	Have you ever participated in...?	If your agency had the following, would you use...?
Employee Assistance Program	97%	29%	69%
Chaplaincy Program	91%	27%	57%
CISD	86%	49%	79%
Peer Support	85%	18%	74%
Substance Abuse Program	74%	2%	32%
Crisis Hotline Access	75%	3%	39%
One-on-one Counseling	48%	24%	67%
Mental Wellness Awareness Training	45%	13%	74%
Helping Co-workers with Stress	36%	7%	77%
Stress Management Training	31%	12%	76%

Conflict Resolution Program	**28%**	**5%**	**61%**
Screening Brief Intervention	**25%**	**2%**	**42%**
Mindfulness Training	**17%**	**8%**	**59%**
Stress First Aid Program	**10%**	**2%**	**53%**

III. Access to Health and Wellness Programs

Table 3 shows access to health and wellness programs. Almost all respondents report having access to exercise equipment on duty (95%), but only one-third report access to dietary or nutritional counseling (32%). Even fewer respondents report access to stress management classes.

Table 3. Access to health and wellness programs.

Does your agency offer the following Health and wellness programs?	Yes	No	Not sure
Access to exercise equipment on duty	**94%**	4%	
Dietary or nutritional counseling	32%	52%	15%
Tobacco cessation program	23%	49%	28%
Stress management classes	12%	68%	20%
Group exercise classes	6%	90%	4%
Membership to local fitness center	5%	91%	4%

IV. Attitudes toward mental wellness and perception of agency culture

- Although over 50% of respondents feel that emotional problems are better solved with professional help, only **25%** report they would seek professional help (as their first thought) if they were experiencing an emotional crisis.

- Although 61% report that their agency considers mental wellness important**, just half of all respondent**s feel comfortable talking about mental wellness concerns with their co-workers.

- More than **one-third** believe that bringing up mental wellness concerns at work will impact their career negatively.

V. Conflict and support at home and at work

- Respondents did not report frequent or intense conflict at home or work but more reported that conflict spills over from work to home than the other way around.

- In general, respondents are most satisfied with support from family and friends, followed by support from co-workers. They are somewhat less satisfied with support from staff.

VI. Work-life Balance

- One-third of respondents report it is “somewhat hard” and 12% report it is “very hard” to take time off during work to take care of personal or family matters.

- More people report that demands of their job interfere with family life or personal time (74%) than the other way around (demands of family interfering with work) (33%).

VII. Stress

Table 4 shows the results of the questions about stress. The perception of stress is definitely a major concern amongst this first responder population. At least 74% of the respondents find their job stressful at least some of the time. The questions assessing how often a first responder feels down and how often he or she experiences little interest in doing things are used as a cursory screen amongst traditional psychological screening tools. While these questions are posed in light of a survey, it is noted first responders rated these items at 43% and 42% respectively; which is quite high. These ratings imply that a minimum of 40% of first responders sampled experience the cardinal symptoms of depression at least in the past year. It is also noted respondents also reported a similar degree of sleep problems (45%). Hence, the degree of endorsement of depressive symptoms is consistent with the similar endorsed degree of sleep problems. The corresponding levels of depression and sleep is important because sleep is the number one precursor to any type of psychiatric disturbance, i.e. symptoms of PTSD (flashbacks, intrusive thoughts), relapse on substances, depression, panic attacks, worsening anxiety, suicidal ideation, and chronic pain flares. In this group of first responders and consistent with other studies on first responders and shift workers, it appears sleep deprivation may be a significant contributor to mental wellness.

Table 4: Shows the responses to questions about work stress.

	Never	Sometimes	Most of the time	Always
How often do you find your work stressful?	4%	74%	20%	4%
In the past year, how often have you been bothered by:	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	46%	42%	9%	3%
Feeling down, depressed or hopeless	49%	43%	6%	2%
Trouble falling or staying asleep or sleeping too much	25%	45%	20%	11%

Post-Traumatic Stress Disorder (PTSD)

Table 5 shows the results for questions that measure aspects of PTSD. In terms of PTSD symptoms, 25% to 40% of the first responders endorsed being bothered by a critical incident in the past year. At least a third of respondents indicated they were avoidant of reminders associated with a stressful incident (39%), hypervigilant (being “super alert”), had problems concentrating, or had sleep difficulty. These symptoms are the cardinal signs of PTSD. According to the survey, if 40% of the respondents have problems concentrating “a little bit” of the time, then how is this impacting patient care and decision making? If a first responder is working a 48-hour shift, which is an additional day of sleep deprivation, then how might this impact patient care and employee relations amongst this group of responders where there is less recovery time on and between shifts?

Table 5: Shows the results for questions that measure Post-Traumatic Stress Disorder (PTSD).

Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and indicate how much you have been bothered by that problem in the past year	1	2	3	4	5
Being “super alert” or watchful or on guard	36%	31%	17%	12%	5%
Having difficulty concentrating	33%	40%	16%	9%	2%

Trouble falling or staying asleep	25%	31%	20%	16%	8%
Response categories: **1= not at all; 2= a little bit; 3= moderately; 4=quite a bit; 5= extremely**					

VIII. Coping with Stress

In general, respondents report healthful coping strategies to deal with stress such as exercise, talking to a friend and being with family. Very few respondents report alcohol use as a frequent coping strategy. Passive coping such as "distracting oneself and not thinking about work" are used more often than active coping such as meditation or yoga.

Note: In the comments' section several people report that church; faith; and spiritual engagement are coping strategies they employ during stressful times.

IX. Impact of Stress on Health and Work

- 1 in 3 respondents report they have called in sick because they mentally just could not perform their job. One in 5 report this happens occasionally.

- Almost half of all respondents report they had experienced an occasion where they were not able to do their job well because of sleep deprivation. Almost 40% report this happens occasionally.

X. Knowledge of Symptoms of Stress and PTSD

Knowledge of symptoms of Stress and PTSD is high among this sample. Most respondents know the main symptoms of stress although there is less awareness of diabetes, high cholesterol, digestive system slowing down and stroke as symptoms of stress. Knowledge of PTSD symptoms is very high.

XI. Health and Health Care utilization

- Most people report they are in good to excellent health. Only 1 in 10 report to be in fair or poor health.

- The majority of respondents have a primary care provider (84%) and most report having seen their provider for an annual medical physical in the past year.

In Summary:

- Although most respondents report to be in good or excellent health, (work) stress is a significant issue. Ratings imply that a minimum of 40% of first responders sampled experience the cardinal symptoms of depression at least in the past year. Respondents also reported a similar degree of sleep problems (45%). Hence, the degree of endorsement of depressive symptoms is consistent with the similar endorsed degree of sleep problems.

- 1 in 3 respondents report they have called in sick because they mentally just could not perform their job. Almost half of all respondents report they had experienced an occasion where they were not able to do their job well because of sleep deprivation.

- In general, awareness of symptoms of stress and PTSD is high although health conditions that are associated with stress are less well known. About half of respondents know the number of a crisis line.

- Although certain resources/programs are very accessible, relatively few people report having used these programs. Lack of participation in these programs might be related to lack of trust that services are confidential. In addition, engaging with service providers who are not well-trained in Public Safety lowers the enthusiasm for participation in such programs.

- There appears to be great interest in stress management programs of all kinds, including mindfulness, awareness training and counseling programs.

- Exercise and fitness programs are perceived as important programs for mental wellness but it appears that there is not always dedicated time in the day to actually engage in fitness.
- Consistent with other surveys, mental wellness culture in the fire service is not conducive to communication about mental wellness concerns. Although the majority of respondents feel mental wellness is seen as important by their agency, most are not truly comfortable talking about mental wellness concerns out of fear for retaliation or punitive action.

Areas for further exploration

Based on the results of this needs assessment, the Planning Committee has identified several areas for further exploration:

1. Leadership Training: Perceived stress and stressors differ by role at agency. Leadership training on how to deal with stress, engage in self-care, and support personnel. This may have a big impact on occupational stress for all service providers.
2. Wellness Approach: Prevention of stress.
3. Peer Support: Organize and disseminate all the peer support efforts and deal with issues around confidentiality.
4. Increase Awareness: Among 9-1-1 personnel and "market" programs/services that are available.
5. Assess Gaps: Focus on "ongoing training" around mental wellness.

PLANS for 2018-2019: The on-line training on communication with LEP will be completed and tested with call takers in King County dispatch centers over the next two years. The mental wellness survey will point to activities that can be conducted over the next two years as well as activities for the next levy period.

VPSI Plans for Next Levy Period

I. VPSI Outreach and Education Activities: For the next levy period we propose to expand our efforts while more systematically coordinate, implement and evaluate VPSI education/training activities. We propose to:

- Expand our outreach and education program to language communities we have not yet reached, such as Russian and Spanish communities.
- Expand our outreach and education programs to King County cities and areas outside the city of Seattle.
- Broaden the educational content to include additional topic areas beyond 9-1-1 and CPR. These would include: Emergency response to Stroke symptoms; AMI symptoms; Choking; Overdose.
- Develop train-the-trainer programs (like CERT training programs) on the topics listed in second bullet to assure a standardized content of our trainings. [community partners will then translate the training content and add cultural relevance to the training content/format]
- Continue to train and supervise UW undergraduate Public Health students and other service-learning students for delivering of the health education materials.
- Coordinate efforts across community partner activities by holding monthly meetings to share experiences and improve coordination of efforts
- To develop a more systematic way in which to track VPSI outreach activities and to evaluate our impact (standardized surveys; EMS data;)

II. Fire-Based Pilots: For the next levy period we propose to develop a more systematic way of assessing fire departments' needs for planning, implementing of evaluating program activities related to the mission of VPSI and linking MPH students to these opportunities. We propose to:

- Continue FD based pilot projects on care delivery for vulnerable populations
- Develop position descriptions for recruitment of an MPH student, in partnership with the FDs to meet the needs of a student as well as the FD.
- Recruit and supervise MPH students to engage with FD projects as part of their thesis/capstone academic requirement
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III. EMS workforce training: For the next levy period we propose to develop several trainings/resources identified during the needs assessments that took place during the first levy period. We propose to:

Improve access to mental wellness training and resources for 9-1-1 personnel in King County

Improve access to trainings on how to communicate most effectively with LEP populations

IV. EMS workforce diversity:

Increase diversity in EMS workforce by supporting and expanding the STAR scholarship program; developing a more systematic marketing campaign on career options in EMS to reach under-represented individuals; developing professional development opportunities to recruit women and/or other under-represented individuals into the STAR program.